DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-002876
Date Inspected: 09-Jun-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 630
OSM Departure Time: 1530
Location: Shanghai, China

CWI Name:	Hu Wei Qing and Lvliqing			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG and SAS Tower Fabrication

Summary of Items Observed:

On this date, Caltrans Office of Structural Material (OSM) Quality Assurance (QA) Inspector Joselito Lizardo was present as requested to perform observations on the fabrication of Orthotropic Box Girder (OBG) and SAS Tower at Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China.

The QA Inspector has randomly observed the following activities on these Bays mentioned below;

Bay 7: OBG - Floor Beam Sub Assembly:
QA Inspector J. Lizardo randomly observed ZPMC qualified welder Liu Kai Ge ID #044830 groove welding fill pass on (flange to web plate) tee joint. Mr.Liu was observed welding in the 2G (horizontal) position utilizing a flux cord arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic at floor beam FB009-003-043. QA Inspector Lizardo observed the ZPMC QC CWI Inspector Hu Wei Qing verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS).

The QA Inspector randomly observed ZPMC welder Chen Xi Feng ID #052692, utilizing the Submerged Arc Welding (SAW) Process in the 1G Position (Flat Groove) with ZPMC WPS WPS-B-T-2221-B-L2c-S-1, to weld the fill pass in plate splice butt joint FB023-001-081/101 floor beam. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 515 amps, 29.0 volts with a travel speed of 420 mm per minute. The weld parameters appeared to comply with contract requirements. This QA also observed another ZPMC welder Huang Xin Lan ID #044780 using the same process and procedure on floor beam plate splice butt joint welding fill pass on

FB023-001-078/079.

FCAW fillet welding (2F) was observed on flange to web plate of beam sub-assembly FB009-003-004. ZPMC welder working on this was identified as Liu Long Xian ID# 044786. ZPMC CWI Hu Wei Qing was noted monitoring the parameters. Tack welding/fit-up was continuing on stiffener to web plate of floor beam FB011-008-022/023 and FB011-008-013/014 using electrode TL-508. During tack welding/fit-up of these sub-assemblies, paint coating was removed, close and tight gap noted and preheating was used. Carbon arcing/back gouging of plate splice butt joint after welding one side on floor beam FB036-001 and FB033-001 was also observed.

FCAW fillet welding (2F) was also observed on welded spacer beam W5.5 X 25.5 inches long for various floor beams FB006-050-007, FB006-045-010, FB006-050-014 and FB006-045-016 by two ZPMC welder Chen Chun Zong ID# 044824 and Zhang Liang ID# 067036 using WPS-B-T-2132-3. The QA Inspector randomly observed ZPMC QC monitoring weld parameters.

This QA observed two incidents wherein spliced butt floor beam plates were inserted/wedged with 4" X 4" lumber at the edge of these plates which could make it buckle or distort and lost its flatness. This QA called the attention of ZPMC CWI HU Wei Qing and one ABF QA inspector regarding this concern. Both Inspectors responded by saying they will ask ZPMC personnel to correct such concern. See photo below.

Bay 8: Tower Diaphragms

The QA Inspector randomly observed ZPMC welder Xu Pei Pei ID Number 050323, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-3221-B-U3c-S-1, to weld the fill pass on plate splice butt joint of Tower Diaphragm NSD1-SA196A/B-1B. The QA Inspector randomly observed ZPMC CWI Lvliqing, monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 612 amps, 30.3 volts with a travel speed of 472 mm per minute. Weld parameters appeared to comply with contract requirements.

QA Inspector J Lizardo randomly observed ZPMC qualified welder Mr. Fu Yan Jie ID 066268 tack welding tower diaphragm weld joint ESD1-SA301A/B-11A/12A . Mr. He was observed welding in the 1G (flat) position utilizing a shielded metal arc welding (SMAW) process with a 4.0mm diameter electrode, filler metal brand Excalibur E9018M H4R. In separate location, grinding/cleaning of tack welds inside groove of tower diaphragm plate splice butt joints WSD1-SA301A/B-11A/12A and ESD1-SA301A/B-12A in preparation for SAW root welding was observed.

Other activities noted in this bay include oxy-acetylene gas bevel cutting to 45 degree one side of 14mm thick web plate, for various longitudinal diaphragm LD7A, LD9A, LD13B, LD14B and LD10A. Taking off paint coating on stiffener weld areas on these same plates also observed.

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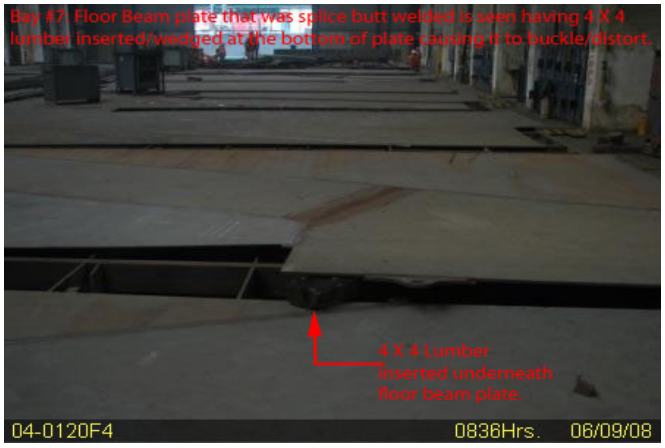

Summary of Conversations:

No significant conversation ocurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Cochran,Jim	QA Reviewer